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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,709	03/23/2001	Nobuhiko Noma	P20828	4374

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EXAMINER	
AGHDAM, FRESHTEH N	
ART UNIT	**PAPER NUMBER**
2631	

DATE MAILED: 10/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/814,709	NOMA, NOBUHIKO	
	Examiner	Art Unit	
	Freshteh N. Aghdam	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-8* is/are rejected.

7)☒ Claim(s) *4 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3,4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names sole inventor. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tore (US Patent 6,310,926) in view of Asano (US Patent 4,991,184).

As to claims 1 and 6, Tore teaches a QAM receiver for receiving and demodulating received symbols using demodulating means (FFT 10) for demodulating reception symbols subjected to quadrature amplitude modulation (QAM). Also, Tore

teaches identifying means (21) for detecting the rotation direction of the reception symbols by considering all possible phase rotations of all complex default QAM data values with respect to the respective complex default values (Col. 9, Lines 49-58). Tore does not expressly teach memory, or identifying a control signal sent at the beginning of a control channel. However, use of memory is well known and it would have been obvious to an ordinary skilled in the art at the time that the invention was made to include memory to store the demodulated reception symbols for further processing. On the other hand, Asano in the same field of endeavor, identifies a control signal that is sent to a control channel for a received QAM signal (Col. 2, Lines 5-15 and 25-27: Fig. 1A, Block 7a). Therefore, it would have been obvious to one of ordinary skilled in the art at the time that the invention was made to combine teaching of Asano with Tore to adaptively control the speed setting of a data communication system according to detected qualities of transmission medium represented by the signal to noise ratios, error rates and out-of-sync conditions (Col. 1, Lines 21-25).

As to claim 2, Tore teaches identifying means (21) for detecting the rotation direction of the reception symbols by considering all possible phase rotations of all complex default QAM data values with respect to the respective complex default values and it is considered to determine a polarity array from polarities of the calculated result arrayed over a span of a plurality of consecutive symbols (Col. 9, Lines 49-58; Col. 10, Lines 31-36; Fig. 12-2, Block 219).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tore in view of applicant's prior art. Referring to the rejection of claim 2 above, Tore discloses

all the subject matters (i.e. determining the modulation pattern of consecutive reception symbols) claimed (above). Also, the applicant admits in the specification (Pg. 4, Lines 20-25) that it is well-known to identifying a control signal such as (Sh signal, etc) in compliance with Recommendation V.34 by detecting coordinates on a signal space diagram of reception symbols and determining a modulation pattern of consecutive reception symbols. Therefore, it would have been obvious to one of ordinary skilled in the art at the time that the invention was made to combine the teaching of the applicant's prior art with Tore's in order to adjust the phase of a sample frequency at the receiver.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tore and Asano in view of Nishioka. Tore and Asano disclose all of the subject matters claimed (above) except for reading and recording means for an image communication apparatus. Nishioka (US Patent 6,311,233) discloses in the same field of endeavor, an image communication apparatus, which includes reading means and recording means (Fig. 1, Blocks 5 and 6; Fig. 2; Col. 3, Lines 60-65; Col. 4, Lines 5-40), which does the same thing in terms of functionality, as that of applicant's. Therefore, it would have been obvious to an ordinary skilled in the art at the time that the invention was made to combine the teaching of Nishioka with Tore and Asano to communicate image data between two points.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tore, Asano, and applicant's admission of prior art further in view of Chu. Tore, Asano, and applicant's prior art admission teach all the subject matter claimed (rejections of claims

1, 2, and 3 above) except for the further limitations of using a half-duplex operational mode in a V.34 communication environment. However, Chu (US Patent 6,728,308) discloses in the same field of endeavor, that a V.34 modem can operate in a full-duplex or half-duplex mode dependence upon the application of the communication system (Col.1, Lines 20-30; Col. 2, Lines 30-55; Fig. 1; Fig. 4). Therefore, it would have been obvious to an ordinary skilled in the art at the time that the invention was made to combine the teaching of Chu with that of Tore, Asano, and applicant's admission of prior art in order to communicate in a half-duplex mode in a V.34 environment so as to enhance the symbol throughput of V.34 facsimile modems (Abstract).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tore, Asano, and Chu as applied to claim 7 above further in view of applicant's prior art admission. Applicant admits in the specification (Pg. 4, Lines 20-25) that is the conventional way of identifying a control signal as (Sh signal, etc) in compliance with Recommendation V.34 by detecting coordinates on a signal space diagram of reception symbols and determining a modulation pattern of consecutive reception symbols. Therefore, it would have been obvious to one of ordinary skilled in the art at the time that the invention was made to combine the teaching of the applicant's prior art with Tore's, Asano's, and Chu's in order to adjust the phase of a sample frequency at the receiver.

Allowable Subject Matter

Claims 4 and 9 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach identification of the received signal as being an "Sh" signal when positive polarity appears at least twice consecutively in the polarity array after a communication is started through the control channel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. G/

MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER